

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Paul F. Nealey  
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Date: March 15, 2004

Docket No.: 032026:0777

For: **GUIDED SELF-ASSEMBLY OF BLOCK COPOLYMER FILMS ON  
INTERFEROMETRICALLY NANOPATTERNED SUBSTRATES**

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

With respect to the examination of the accompanying application, which is a divisional of pending application SN 09/971,442 (Group Art Unit 1756, Examiner D. Chacko Davis) applicants cite the following documents. These documents are also listed on an accompanying Form PTO-1449. These documents are of record in prior application SN 09/971,442. The Office is requested to contact applicants' undersigned attorney if copies of any of these documents are needed.

**U.S. PATENTS**

<u>Inventor(s)</u>	<u>Patent No.</u>	<u>Issue Date</u>
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## OTHER DOCUMENTS

T.A. Savas, et al., "Achromatic Interferometric Lithography for 100-nm-Period Gratings and Grids," J. Vac. Sci. Technol. B, Vol. 13, No. 6, Nov./Dec., 1995, pp. 2732-2735.

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J.A. Hoffnagle, et al., "Liquid Immersion Deep-Ultraviolet Interferometric Lithography," J. Vac. Sci. Technol. B, Vol. 17, No. 6, Nov./Dec., 1999, pp. 3306-3309.

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C.T. Black, et al., "Integration of Self-Assembled Diblock Copolymers for Semiconductor Capacitor Fabrication," *Applied Physics Letters*, Vol. 79, No. 3, 16 July 2001, pp. 409-411.

A. Yen, et al., "Achromatic Holographic Configuration for 100-nm-Period Lithography," *Applied Optics*, Vol. 31, No. 22, August 1, 1992, pp. 4540-4545.

H.H. Solak, et al., "Exposure of 38 nm Period Gratings Patterns with Extreme Ultraviolet Interferometric Lithography," *Applies Physics Letters*, Vol. 75, 1999, pp. 2328-2330.

Yang, X. M. *et al.*, "Patterning of self-assembled monolayers with lateral dimensions of 0.15  $\mu\text{m}$  using advanced lithography," *J. Vac. Sci. Technol. B*, 17(6), Nov/Dec 1999, pp. 3203-3207; published by American Vacuum Society.

Peters, R. D. *et al.*, "Combining advanced lithographic techniques and self-assembly of thin films of diblock copolymers to produce templates for nanofabrication," *J. Vac. Sci. Technol. B*, 18(6), Nov/Dec 2000, pp. 3530-3534; published by American Vacuum Society.

Yang, X. M. *et al.*, "Proximity X-ray Lithography Using Self-Assembled Alkylsiloxane Films: Resolution and Pattern Transfer," *Langmuir*, 2001, 17, pp. 228-233; published by American Chemical Society.

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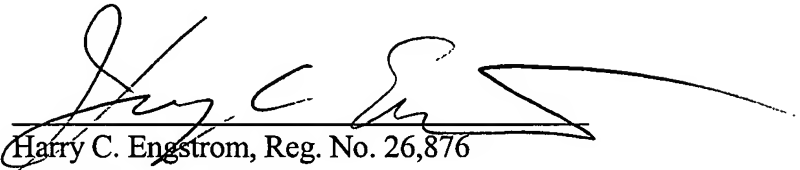
Solak, H. H. *et al.*, "EUV Interferometric Lithography for Resist Characterization," SPIE, Vol. 3676, Santa Clara, California, March 1999.

#### REMARKS

The foregoing documents relate generally to interferometric lithography techniques and diblock copolymer films. The paper by Binine, et al. discusses extreme ultraviolet sources that may be used for lithography applications.

It is thus requested that the foregoing documents be considered during examination of the accompanying application and be made of record therein.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Harry C. Engstrom', is written over a horizontal line.

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Form PTO-1449 (MODIFIED)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 032026:0777		SERIAL NO.	
<b>INFORMATION DISCLOSURE CITATION</b>  Submitted: March 15, 2004  <i>(Use several sheets if necessary)</i>				APPLICANT Paul F. Nealey, et al.			
				FILING DATE		GROUP ART UNIT	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
<b>FOREIGN PATENT DOCUMENTS</b>							
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES   NO
<b>OTHER DOCUMENTS</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
		T.A. Savas, et al., "Achromatic Interferometric Lithography for 100-nm-Period Gratings and Grids," J. Vac. Sci. Technol. B, Vol. 13, No. 6, Nov./Dec., 1995, pp. 2732-2735.					
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